

- 22 -

AUTOMATIC LIQUID ANALYSER AND QUALITY CONTROLLER

ABSTRACT

A method and apparatus for automatically calculating and controlling levels of a given chemical in a liquid from a liquid reservoir using colorimetry testing, the method comprising the steps of (i) collecting in an optical chamber a sample of liquid from a liquid reservoir; (ii) taking a calibration colorimetry A reading of the liquid sample, whereby a reference voltage value B representative of an acceptable limit of a known chemical is calculated and stored in a memory of a controller unit; (iii) releasing the liquid sample from the optical chamber; (iv) collecting in the optical chamber a further sample of liquid from the liquid reservoir; (v) adding a predetermined quantity of a reagent to the further sample in the optical chamber, the reagent chosen as having properties making it react to the presence of the known chemical present or to be added to the liquid; (vi) taking a test colorimetry reading C of the further sample with the reagent added thereto and obtaining a voltage signal representative thereof, whereby a level of the known chemical is known with respect to the reference voltage value B; and (vii) adding a calculated quantity of the known chemical to the liquid reservoir in response to the calculated level of the known chemical in the further sample if the calculated level is below the reference voltage value B.

TOCTSD 4485860